

A NEW SPECIES OF NYCTERIBIIDAE (Diptera Pupipara)
FROM ISLANDS IN THE GULF OF CALIFORNIA

(PLATE 16)

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The specimens on which the following description is based form part of the collections of the Allan Hancock Pacific Expeditions, under the leadership of Captain G. Allan Hancock, master-owner of the vessel *Velero III*. They were collected during a voyage made early in 1937, and were submitted to me in August, 1937, by Commander C. M. Dammers, R. N. (retd.), of Riverside, California, through Dr. K. Jordan, F.R.S., of the Zoological Museum, Tring, Hertfordshire. I was then on the point of leaving for an expedition in southwestern Arabia, and could do no more than report, in a letter to Dr. Jordan, that the material belongs to a new species of *Basilina*.

The comparatively small number of Nycteribiidae recorded from North, Central, and South America consists of species of *Basilina*. The genus closely resembles *Penicillidia*, but is distinguished principally by the eyes, which consist of two facets instead of a single facet. *Basilina* is represented in the Old World, up till now, by only one European and one Oriental species; but in a paper published early in 1936, entitled "Descriptions and records of Nycteribiidae, with a discussion of the genus *Basilina*,"* I enumerated thirteen American species. The species described below must now be added, and the present paper may be regarded as supplementary to that cited. Had the latter not appeared shortly before, I should have hesitated to publish an isolated description of the form under review.

In my paper just cited, I redescribed as well as possible *Basilina mexicana* [Bigot] and explained that this species is represented only by the unique type, with the bare record "Mexico" and no record of its host. The type is in such condition that *B. mexicana* cannot be fully described, even in the female sex, but certain of the characters are so

* Journ. Linn. Soc. London, Zool., xxxix, pp. 479-505, April, 1936; general remarks on *Basilina*, pp. 495-98.

distinct that the species must be maintained. I hoped that the specimens from the Gulf of California islands, also part of Mexico, would prove to belong to *B. mexicana*, so that the latter could be fully described and figured in both sexes. But such is not the case; they represent a new and distinct species, not (as far as I can make out) very close to any of those previously known, but best compared with a species from Costa Rica.

The bat on which the parasites were found is the first representative of the genus *Pizonyx* from which any Nycteribiid has been recorded. *Pizonyx* is, however, closely related to *Myotis*, several species of which are hosts of species of *Basilisa* (though the latter also infest bats of other genera*). I am told that the only representative of *Pizonyx* is the species mentioned below, and that this bat is very localized, being known only from northwestern Mexico. If the host is really as restricted in distribution as appears, the parasite may also prove to be localized and taxonomically somewhat isolated.

The description has been drawn up, and the drawings made, from specimens in alcohol. Pencil sketches were made by myself with the aid of a Zeiss drawing apparatus, and the finished drawings were done by Miss D. Fitchew from these sketches, checked by viewing the actual specimens.

Basilisa pizonychus, new species

Length about 2.25-2.50 mm. The general form is shown sufficiently in the figures. The *eyes* are distinctly two-faceted, conforming to the characters of the genus. The *mesonotum* is not raised behind into any erection (neither a chitinous erection, as in *B. mexicana* [Bigot] nor a finger-like process, as in *B. boardmani* Rozeboom). The *ctenidium* on the hind margin of the basal abdominal sternite consists, in both sexes, of about 52 teeth.

The species is most nearly comparable to *B. ferrisi* Scott (*B. speiseri* Ferris, *nec* Ribeiro),† from Costa Rica. The external distinguishing characters lie mainly in the *abdomen of the female*: *B. pizonychus* has the basal tergite much shorter, with fewer setae on its surface, shorter

* See the table of American species of *Basilisa* and their hosts in my 1936 paper cited above, p. 497.

† *B. ferrisi* was described and figured, under the name *B. speiseri*, by Ferris, Ent. News, xxxv, pp. 198-9, pl. iii, 1924. I made it a distinct species in 1936 (*op. cit.*, p. 502), thereby confirming the opinion of Curran, who had recognized the distinction between it and the true *B. speiseri* (Ribeiro).

setae on its lateral edges, and only two groups of about 3 or 4 short setae at either angle of the hind margin, instead of an almost unbroken series of 12 or more very long setae across this margin (the side margins and hind margin of this tergite in *B. pizonychus* are slightly sinuate). The divided second tergite is also much shorter, has rather numerous short setae on the lateral parts of its surface, while the marginal setae on either lobe are much more numerous, longer and stronger, hence the 2 or 3 very long ones at the inner angle of either lobe contrast less with the rest of the marginal series than do the two very long setae near the inner angle of either lobe in *B. ferrisi*. The third tergite consists of two rather widely separated chitinous lobes, each having two long and several short setae at the inner hind angle, and several other short setae along the arcuate lateral margin. The anal prominence is the hindmost part of the abdomen when seen from above. It has three setae of medium length at either hind angle and several short setae on either lateral margin. The posterior part of the abdomen, therefore, also differs from that of *B. ferrisi*, in which there is no counterpart to the divided third tergite, and the anal prominence is posterodorsal in position. (In the female specimen of *B. pizonychus* figured, and in several others, the posterior dorsal part of the abdomen is occupied by a large dark patch rounded in front, with several lighter spots, and extending into the anal prominence; it is uncertain to what this condition is due, but it is apparently not due to the presence of a larva seen through the translucent outer wall of the body.) Ventrally, the basal sternite in *B. pizonychus* is short; the whitish connexivum behind this has two transverse rows of longer setae marking the hind margins of segments, the surface of the anterior is covered with shorter setae, while the posterior of the two has shorter setae in a single series near the hind margin in the middle, and covering most of the surface at the sides. Behind this, three segments, more or less chitinized, can be traced; the front of these three consists of a single series of longer setae, and has a very short transverse chitinized strip at either side; the next is bluntly produced in the middle behind, chitinized except for a narrow median strip, with short setae on its surface and longer ones on the margin; the hindmost (*i.e.*, the subgenital plate) has an arcuate hind margin, a chitinized area on either side, with shorter and longer setae on the surface of the chitinized parts, and along the margin. (In *B. ferrisi* the basal sternite is long, and the remainder of the ventral surface almost entirely membranous and less setose.)

Abdomen of male: the characters are shown in the figures. The basal tergite is very small and has short, erect bristles at the corners. The second, third, and fourth tergites have a very few short setae on the surface in the middle; otherwise, the surfaces of these tergites are bare, as are those of the fifth and sixth. Ventrally, the second sternite has rather numerous short setae on its surface; the third has a very few setae on its surface, a little in front of the marginal series, but rather more setae at the sides; the surface of the fourth is bare except for a submarginal series (some of which, especially the outer ones, are very long) across the middle part; the stout blackish teeth on the middle of its hind margin are about 26, in two rather irregular series, with a single long one at either extremity. The claspers are not very darkly pigmented except at the apex; lying nearly parallel, but tapering and curving a little upward and inward at the apex.

MEXICO: Gulf of California, Angel de la Guardia Island, 20. iii. 1937, 6 ♂, 4 ♀, and Patos Island, 26. iii. 1937, 2 ♂, 5 ♀ (*J. Garth* coll.). The collecting-stations are, respectively, nos. 707-1937 and 727-1937. Host-bat, in both cases, *Pizonyx vivesi* Menegaux. One of the female parasites from Angel de la Guardia Island carries a partly extruded larva.

TYPES (♂, ♀) and paratypes in the collections of the Allan Hancock Foundation, The University of Southern California; other paratypes in the British Museum (Natural History).

The specific name is a transliteration of the genitive of the generic name of the host-bat. The genus *Pizonyx* is characterized by the compression of its long claws, from which character the generic name was apparently taken.

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LEGENDS OF FIGURES

- Fig. 1. *Basilis pizonychus*, new species, ♀, dorsal view; on left, the left thoracic ctenidium and base of middle leg, more highly magnified.
- Fig. 2. *Basilis pizonychus*, ♂, ventral view of thorax and abdomen.
- Fig. 3. *Basilis pizonychus*: left, ♀, ventral view of abdomen; right, ♂, dorsal view of abdomen.

